Iowa Learning Farm Project
05IFLM006
Integrated Farm and Livestock Management Demonstration Program

Combined Quarterly Reports
April 1 through December 31, 2007

This past year was successful for the Iowa Learning Farm. We have seen much growth within the project, and increased project awareness statewide. With a full staff in place beginning in May, outreach to the citizens of Iowa has increased dramatically. The rainfall simulator was our most popular educational tool, with appearances all over Iowa in Summer 2007, and there are already 15 rainfall simulator appearances scheduled in 2008, beginning in April.

Our cooperators are taking ownership of this project. They are playing a key role in collecting agronomic and water quality information on their lands and are seen as knowledgeable resources by their neighbors and peers. We look toward 2008 with anticipation as our outreach grows to include ILF Conservationists—spokespeople who will help deliver the message about the importance of conservation to all Iowans.

Our partner agencies were instrumental in helping build a Culture of Conservation. The stakeholder event held in late August was a success, fueling agency enthusiasm as well as engaging new commodity, water quality and conservation groups. Our new video debuted as part of Paul Lasley's presentation during the Conservation Districts of Iowa annual Soil and Water Commissioners conference in late November.

With the work plan for 2008 in front of us, we roll up our sleeves to meet—and exceed—our goals for the year ahead.

--Jerry DeWitt, project manager

No. Cooperators	Field Days=No. in Attendance	Meetings=No. in Attendance	Publications/Educational Materials*=Distribution	Web Address/Known Links
29	June 21, Crawfordsville ISU field day=150	April 2, ILF Team meeting	May 2007, ILF Newsletter	www.extension.iastate.edu/environment/
	June 29, Zwiefel Farm (Fenton)=50	April 3, ILF Communications team meeting	May, 8 new signs for rainfall simulator	www.extension.iastate.edu/environment/ waterquality/
	Aug 2, Muscatine Co. (Muscatine)=26	April 20, rainfall simulator at Earth Day Celebration, Mesquaki Department of Natural Resources, Tama	May 9, Rainfall simulator news release	www.extension.iastate.edu/environment conservation/
	Aug 8, Stout Farm (West Chester)=45	May 1, ILF Team meeting	May 17, WHO-radio Helmers interview	www.extension.iastate.edu/crops/
	Aug 21, Caviness farm (Greenfield)=35	May 1, ILF communications team meeting	June 1, comment cards printed	www.extension.iastate.edu/crops/ sustainableagriculture/
	Aug 23, Campbell farm (Shannon City)=31	May 10 Rainfall Simulator Presentation at Iowa Children's Water Festival, DMACC	June 2, Ames Tribune features rainfall simulator	www.extension.iastate.edu/ farmmanagement/
	Aug 27, Crew farm (Webb)=70	May 15-16, Rainfall Simulator at Upper Mississippi River Festival, Marquette	June 15, Rainfall simulator handout – includes reservations form	
	Aug 30, ILF Stakeholder Event, Smeltzer Farm (Otho)=85	May 21, Stakeholder event planning meeting	June 18, Butler Co. Fair news release	July ILF website: 13,815 hits 4,482 visits, 6:14 avg visit length
		May 23, Meeting with NRCS, IDALS, and DNR to discuss ILF involvement in 2008 Farm Progress Show =6	June 18, Story Co. Fair news release	Aug ILF website: 10,599 hits 3,561 visits, 7:30 avg visit length (To date, September statistics have not been posted).
		June 1, ILF Team meeting	June 18, Stakeholder "Hold the Date" cards printed and mailed = 160	
		June 1, communications team meeting	June 19, Zwiefel Field Day news release	
		June 5, rainfall simulator at Storm Lake Watershed group event, Alta	June 27: Mahaska, Marion and Clarke County Fairs news releases	
		June 5, rainfall simulator at Sac/Buena Vista County 4-H Crop Scouting Orientation, Storm Lake	June 27, feature on WHO-TV 13 5pm newscast	
		June 5, Rainfall Simulator at 4-H crop scout training, Storm Lake	June 28, Midwest Strip Tillage Expo news release	
		June 7, stakeholder event planning	June/July/Aug., Rainfall	

		meeting	Simulator= 13 news releases (6/26-7/30)	
		June 14, Rainfall Simulator at Ames Farmers Market	July/Aug., 5 Field Day news releases=to targeted area print/radio media, CEEDs	
		June 20, Rainfall Simulator at Iowa Soil Commissioners Tour, Bedford	July/Aug., Field Day flyers, postcards printed and mailed to host/Ext.	
		June 22, Rainfall Simulator at Butler County Fair, Allison	August 9, Stakeholder Event invitations, accompanying pieces mailed	
		June 27, Helmers presents & demonstrates rainfall simulator at Natural Resource Issues Conference, Des Moines Farm Bureau	August 20, Stakeholder event materials packet, labels, nametags	
		July 9, ILF Team meeting	August 26, Vision 09 Document	
		July 10, 12, 16-19, Crop Diagnostic Clinic, FEEL, Ames=180 (Al-Kaisi, Benning, Helmers, Hanna)	August 26, Cooperator list/map	
		July 11, Leopold Center 20th anniversary conference (ILF display)	August 29, Poster series (4)	
		July 31, SSCC subcommittee meeting=10 (DeWitt, Comito, Helmers, Brown)	Aug. 29, Cooperator banner	
		July 31, Strip-Till Expo, Waterloo (Al-Kaisi, Hanna, Bond, Lundvall)=575 at expo (35 people visited rainfall simulator)	September 28, ILF Newsletter	
		Aug. 1, ILF Team meeting=8	4 Field Day fact sheets (Caviness, Campbell, Smeltzer, Crew) including summaries of the demonstration sites and agronomic research data	

			distributed to all field day participants	
		Aug. 1, Communications Team meeting=5	Soil & Water Conservation Week= DeWitt & Juchems radio interview on WOI Radio 11/28/2007	
		Aug 13, Residue Mgmt meeting=7 (DeWitt, Brown)	Soil & Water Conservation Week= Comito, Juchems *Des Moines Register* 11/24/2007 editorial	
		Aug. 14, NRCS Staff meeting. Des Moines (DeWitt, Comito, Brown)=20	*Wallaces Farmer* December 2007 (introductory article)	
		Aug 15, Stakeholder Event planning meeting	Al-Kaisi: ICM Newsletter articles on wet soil conditions, soil quality, residue removal, and conservation systems	
		Aug 15, ILF presentation to POET, Emmetsburg =4 (DeWitt)	Hanna: Press contacts (3) regarding fall tillage considerations and strip tillage equipment considerations (2)	
		Aug 20, ILF presentation to CDI Region 8 Fall Meeting, Corning =45 (DeWitt)		
		Aug 22, ILF presentation to Nevada Rotary Club=24 (DeWitt)		
		Aug 26, ILF presentation to POET, Ames=4 (DeWitt, Lundvall)		
		Aug 29, Armstrong field day=100		
		Sept. 6, Communications Team meeting=5		
		Sept. 14, Residue Mgmt focus group session=12 (Brown)		
		Sept. 17, ILF Team Retreat=12		
		Sept 18, Soil Clinic =20		
		Sept. 19, ISUE Field Agronomist In-Service training ILF update=10		
		Nov. 2, ILF Steering=25		

		Nov. 4-8, American Society of Agronomy national meeting=4,000+ (Iowa Learning Farm poster)		
		Nov. 28-29, CDI Conference=250 Lasley-keynote; DeWitt & Zwiefels, presenters; ILF booth (3 staffed)		
		Nov. 29, ILF Symposium at ICM Conference, Ames=350 Al-Kaisi, Duffy, and Helmers presented the two-hour workshop		
		Nov. 29, ICM Conference, Ames=350 Al-Kaisi: Tillage and nutrient management presentation		
		Nov. 29, ICM Conference, Ames=200 Helmers: Water Quality Modeling presentation		
		Nov. 29, ICM Conference, Ames=200 Hanna: No-Till/Conservation Tillage Planter Adjustment presentation		
		ISU AEP Ag Chemical Dealers' Update in Ames: Helmers' presentation on Buffers and Water Quality attended by 100 people		
		IDALS staff meeting, Dec. 6=16 DeWitt, Lasley presenters		
		Iowa Farm Bureau annual meeting, Dec. 7=200 ILF booth (3 staffed)		
		Adair County Tillage meeting, Dec. 18=40 DeWitt, Comito presenters		
		Residue Management meeting, Dec. 18=DeWitt, Brown attending		
		DNR Agri-business meeting, Dec. 20=DeWitt, Comito attending		

ON-FARM DEMONSTRATION COMPONENT (Al-Kaisi & Benning)

April 1-June 30:

Soil samples and field measurements were collected from 28 demonstration sites in May and June, 2007. Processing and analysis of these samples for total carbon, total nitrogen, organic matter, bulk density, and pH is underway. Jamie Benning has been working closely with the extension field agronomists to obtain planting and emergence dates, population counts, and residue estimation for the 28 demonstration sites. Three cooperators were unable to maintain their demonstration sites this season. Bret Siepold could not apply fertilizer treatments due to weather related time constraints, but he will continue to be an ILF cooperator. Joel Thomas has decided to not continue to maintain his demonstration site due to other farm and business obligations. Lynn Gronborg is currently planning to sell the land where his demonstration site is located and will not continue to be an ILF cooperator.

July 1-September 30:

On-Farm Demonstration Component: Soil samples taken during the spring months were processed and analyzed for bulk density, pH, and microbial biomass. Four undergraduate student hourly workers were supervised by Jamie Benning to assist in the soil processing and analysis during this quarter. This data is being summarized for publications and presentations. Progress is being made on the analyses for dry aggregate stability, wet aggregate stability, total carbon, total nitrogen, and organic matter.

Benning has communicated with extension field agronomists by phone and email on a weekly basis to maintain relationships, check crop status, and obtain fall stalk nitrate samples, final plant populations, and yield data for the 28 demonstration sites.

Benning has communicated by phone or in person with cooperators Collin Jensen, Doug Campbell, Gary Nelson (Smeltzer Trust Farm), and Bill Buman during this quarter to discuss enhancements to their demonstration sites for CY2008. She and John Lundvall met with Extension Field Agronomist Kyle Jensen and a potential cooperator to replace one of the Loess Hills Region demonstration sites lost in 2006. The potential site, located in Pottawattamie County, would likely demonstrate no-till and several tillage practices.

Outreach Component: Dr. Al-Kaisi and Benning presented soil quality information to approximately 180 participants during 4 sessions of the ISU Crop Diagnostic Clinic held July 9-10, 11-12, 16-17, and 18-19. Research methods used to collect data on compaction, bulk density, infiltration rates, residue cover, soil moisture, and soil aggregate stability at the ILF detailed sites were described through presentations and hands-on demonstrations, along with discussion of ILF project objectives and research findings.

Benning coordinated with John Lundvall and Carol Brown to organize field days by providing demonstration and agronomic information and by contacting cooperators and extension field agronomists as needed.

Benning attended 3 communications team meetings this quarter to provide updates on the agronomic component to the team, add input on how to utilize agronomic information in outreach materials, and provide ideas and suggestions for ILF project planning. Benning provided input at several additional planning meetings to organize the stakeholder event field day at the Smeltzer farm. She also developed an agronomic component poster and fact sheet and co-presented those materials with Dr. Al-Kaisi that on the tour.

Dr. Al-Kaisi and Benning presented agronomic research data fact sheets and supporting conservation practices information at field days held at the Caviness, Campbell, Crew, and Smeltzer demonstration sites.

Iowa hosted the Midwest Strip Tillage Expo held July 31st at Hawkeye Community College near Waterloo. The organizing committee included ILF co-PIs Mahdi Al-Kaisi and Mark Hanna. Total attendance was estimated at 575 – 600, with 8 states represented. The program was

developed and implemented by the NC-1012 committee in collaboration with faculty and extension staff from the University of Wisconsin, the University of Minnesota, Iowa State University, Water Research Center of University of Minnesota, and Hawkeye Community College. The program featured educational presentations on: Fertility Management for Strip Tillage by Dick Wolkowski, UW; Strip Tillage Options for Continuous Corn, Mahdi Al Kaisi, ISU; Auto Steer Technology, Tim Stombaugh, U of Kentucky; and Selecting Strip Tillage Equipment for your farm, Mark Hanna, ISU. These presentations, and a means to interact electronically with presenters and panel members, are posted at www.wrc.umn.edu. Field demonstrations were conducted and static displays were set up from 14 different manufacturers allowing expo attendees to see the equipment in action and to speak individually with specific manufacturers. The Iowa Learning Farm Project Rainfall Simulator and the ISU 150th Anniversary Display were included in the static display area. A homemade strip-till machine, built by Grundy County farmer Fred Abels, with an ISU grant and assistance from ISU Ag Engineer Mark Hanna, was included in the field demonstrations. A farmer panel included brief presentations and a question-and-answer period with experienced strip-tillers from Wisconsin (1), Minnesota (1) and Iowa (2). The Expo exemplifies the excellent working relationship that exists between ISU and the ag staff and students at Hawkeye Community College; the state agencies with common objectives; and the agri-businesses and dealerships which service our area.

Outcomes: Dr. Al-Kaisi and Jamie Benning developed sets of site-specific data sheets for each site that was used by field agronomists and other presenters during field days and training sessions for different system comparisons. During the last couple of months Benning has been using the RUSLE2 model and Soil Conditioning Index on selected ILF sites utilizing the data collected from 2005 and 2006 for evaluating the performance of different conservation and cropping systems. Results generated from this work will be utilized in developing sets of fact sheets for No-till, Strip-tillage, Residue removal, and Soil organic matter and Soil quality. Also, the results will be presented at national and state conferences. Benning is working closely with Communication Specialist Carol Brown on designing and developing these fact sheets as product of the Agronomic Component to be utilized in informing stakeholders, policy makers, producers, and public by presenting scientific facts about conservation systems in improving soil and water quality.

October 1-December 31:

On-Farm Demonstration: During the months of October-December 2007 the agronomic component team (Al-Kaisi, Benning, and undergraduate students) were busy summarizing yield data collected from producers and field agronomists. They also traveled extensively to collect final deep soil samples after harvest from demonstration sites to determine nitrate leaching under different tillage and cropping systems. Soil and plant samples were processed and sent to the lab for analyses. Data were analyzed and summarized for the year-end report. Individual farmers' reports were prepared and sent to farmers. Data from demonstration sites were used to prepare PowerPoint presentations for the ILF symposium on November 29, and ILF workshop on January 15, 2008.

Jamie Benning communicated with the Extension field agronomists and project cooperators by phone and email on a weekly basis to complete data collections such as yield results, and other needed information for the final agronomic report. Individual farmer's site data and the final "Agronomic Report" were finalized and given to Carol Brown to be posted on the ILF website.

Outreach: Outreach activities included participation in a two-hour ILF symposium/workshop session at the ISU Extension Agribusiness Education Integrated Crop Management (ICM) Conference held in Ames on November 29, a separate presentation at the ICM Conference, and an ILF poster presentation by Al-Kaisi and Benning at the American Society of Agronomy meeting held in New Orleans in early November.

Jamie Benning will be on maternity leave from January 4 through early March.

Outcomes: Dr. Al-Kaisi and Jamie Benning will be developing educational materials for 2008 field activities based on data collected from all ILF demonstration sites. Al-Kaisi and Helmers will work together to utilize data collected from all sites for soil and water quality modeling. Several PowerPoint presentations have been developed and used in the ILF educational activities and for winter in- and out-of-state invited presentations by Dr. Al-Kaisi.

WATER QUALITY COMPONENT (Helmers & Hanna)

April 1-June 30:

The water quality component continued activities in two areas (1) the rainfall simulator and (2) water quality modeling. The rainfall simulator activities are described in greater detail within this report but we have had the simulator at numerous activities involving a wide range of stakeholders. For the water quality modeling we have developed a list of five producers, one in each region of the state, to focus on for the water quality modeling. We have begun to develop the databases for simulating the producers' fields. Below is a description of the methodology to be used for the modeling, how the sites were selected, and the information that is being collected to perform the modeling. Further simulation scenarios will be developed based on producer input.

Summary of water quality modeling and site selection:

Study area:	The State of Iowa
Geographic regions:	Five (based on soil formations and land use)
Local farms:	One farm in each geographic region
Simulation model:	Water Erosion Prediction Project (WEPP) model
Simulation period:	30 years (1975-2005)

Simulation Scenarios:

Baseline scenario: Simulate the current practices of the selected local farms

In-field management practices: (in consultation with local producer)

- Crop rotation: Corn-Corn, Corn-Soybean, and Corn-Soybean-Alfalfa;
- Tillage: Conventional, Reduced and No tillage;
- Corn biomass removal rate: 0, 20, 40, 60, 80, 100%.

Edge-of-field management practices: (in consultation with local producer)

- Buffers: Location and Size;
- Terraces: Location

Materials and Methods:

Model Evaluation: comparing WEPP simulations with observed datasets (1976-80) from three small watersheds located in Four Mile Creek;

Model Setup: WEPP projects for selected local farms;
Model Simulations: simulation of baseline and in-field and edge-of-field management practices.

Selection of Local producer's farm for water quality modeling: Five local producer's farms are selected to be representative for each of the five geographical regions in Iowa: Northwest Plains; Des Moines Lobe; Northeast Iowa Surface; Southern Iowa Plains and Loess Hills. The section of farms is made from the Cooperators list of Iowa Learning Farm project since we have already significant information available for the cooperative farms. The main soil types and their acreage in each region were derived from ISPAID 7.0 soil database for Iowa. Five cooperative farms are selected following the thumb rule that the selected farm:

- represent the main soil type of the region,
- slope >1%, and
- implement the main treatment of tillage and crop rotation.

List of potential producer's farms (to be used in water quality modeling): **Selected farm to represent the region.*

Northwest Plains (Region 1):
*Jerry Crew, Clay County: No-tillage vs. Strip-tillage

Des Moines Lobe (Region 2):
*Dan Eklund, Webster County: No vs. Minimum vs. Conventional tillage;

Northeast Iowa Surface (Region 3):
*Tom Vaske, Delaware County: Strip vs. Conventional tillage;

Southern Iowa Plains (Region 4):
*Scott Swanson, Keokuk County: C-S vs. C-S-O-A-A crop rotation;

Loess Hills (Region 5):
*Glen Stenzel, Fremont County: No-tillage with or without starter fertilizer

Field information required and being collected for farmers and digital databases:

1. Location of the farm (coordinates, township, section??)
2. Image (potentially from USGS site);
3. Farm Size; Soil type; and Slopes;
4. Channel types and layouts;
5. Agronomic practices (crop rotation, extent of crops, and average calendar of operations on the farm)

July 1-September 30:

The water quality component continued activities in two areas (1) the rainfall simulator and (2) water quality modeling. The rainfall simulator activities are described in greater detail within this report but we have had the simulator at numerous activities involving a wide range of stakeholders. During the 3rd quarter a new post-doctoral research associate was hired to work on the water quality modeling. Dr. Xiaobo Zhou replaces Dr. Ranvir Singh on the project.

For the water quality modeling we have begun water quality modeling on five producers' sites, one in each region of the state (sites noted below). Further simulation scenarios will be developed based on producer input. In addition, we are using an existing water quality modeling data set from Four-Mile Creek in Tama County to assess model performance and further test the model with various scenarios. We will begin using modeling results in Extension and Education programming in 4th Quarter 2007. Specifically we will be presenting results at the Integrated Crop Management Conference. During 4th quarter 2007, we plan to work on Iowa Learning Farm Fact Sheets related to Grassed Waterways, Buffers, and Terraces.

Producers' sites to be used in water quality modeling: **Selected farm to represent the region.*

Northwest Plains (Region 1):

*Jerry Crew, Clay County: No-tillage vs. Strip-tillage

Des Moines Lobe (Region 2):

*Dan Eklund, Webster County: No vs. Minimum vs. Conventional tillage;

Northeast Iowa Surface (Region 3):

*Tom Vaske, Delaware County: Strip vs. Conventional tillage;

Southern Iowa Plains (Region 4):

*Scott Swanson, Keokuk County: C-S vs. C-S-O-A-A crop rotation;

Loess Hills (Region 5):

*Glen Stenzel, Fremont County: No-tillage with or without starter fertilizer

October 1-December 31:

Rainfall simulator activities had ceased prior to this quarter, so primary activities related to water quality were in the area of water quality modeling. During the 4th quarter, soil erosion in relation to various tillage systems and in-field management practices was simulated for selected ILF farms using the Water Erosion Prediction Project (WEPP) model, which is a process-based erosion prediction model for small watersheds and hillslopes. We first evaluated the model performance on soil erosion simulation by using real data from the Four Mile Creek watershed in Tama County. We then simulated the impact of different tillage systems on surface water quality for each study site (sites described below), including the currently adopted tillage system of that specific site and other extensively adopted tillage systems. In addition, other scenarios were also simulated to find the site-specific most effective in-field management: biomass removal rate after harvest, crop rotation, waterway management. For each site, the main soil type was derived from soil database, and the topography and slope were obtained from Digital Elevation Data. Some

water quality modeling results were presented at the Integrated Crop Management Conference in November. Based on the communication and feedback from local cooperators, we will continue our water quality modeling using more scenarios during spring 2008: grass filter strips, winter cover crops, terraces, and manure application.

WEPP model performance evaluation: Two neighboring small row-cropped watersheds (5.1-ha watersheds 1 and 6.4-ha watershed 2) within the Four Mile Creek watershed in northwestern Tama County were used as a case study for evaluating the WEPP model performance on simulating surface runoff and soil erosion since water quality monitoring data is available. The results showed that the simulated surface runoff depth and sediment yield matched reasonably well with the measured values at the watershed outlets for both watersheds (Table 1).

Table 1. WEPP model performance on simulating surface runoff and sediment yield for two row-cropped watersheds (NS: Nash-Sutcliffe coefficient; RMSE: root mean square error)

	Watersheds	Intercept	Slope	r2	NS	RMSE
Surface runoff	Watershed 1	1.94	0.94	0.64	0.44	5.21
	Watershed 2	2.15	0.99	0.73	0.58	5.34
Sediment yield	Watershed 1	0.15	0.91	0.70	0.62	1.97
	Watershed 2	0.39	0.93	0.84	0.82	2.09

ILF simulation scenarios:

- One site was selected from each of five geographic regions in Iowa: Jerry Crew (Northwest Iowa Plains), Dan Eklund (Des Moines Lobe), Tom Vaske (Northeast Iowan Surface), Scott Swanson (Southern Iowa Drift Plain), and Glen Stenzel (Loess Hills);
- For each selected site, conservation tillage systems (no till, strip till, disk till, chisel till) was compared to conventional tillage (chisel plow after harvest in the fall, and disk and field cultivation before planting in the spring);
- The impact of crop rotation was simulated in Southern Iowa Drift Plain region: corn-soybean vs. corn-soybean-oat-alfalfa-alfalfa;
- Soil erosion was simulated under five biomass removal rates: 0, 30%, 50%, 70% and 100%;
- Waterway management: grassed waterways vs. tilled waterways.

Simulation Results:

- Different regions of Iowa agricultural lands have different levels of soil erosion severity from the modeling. The Loess Hills region would be expected to have the greatest soil loss and the Des Moines Lobe region would be expected to have the least soil loss (Figure 1).

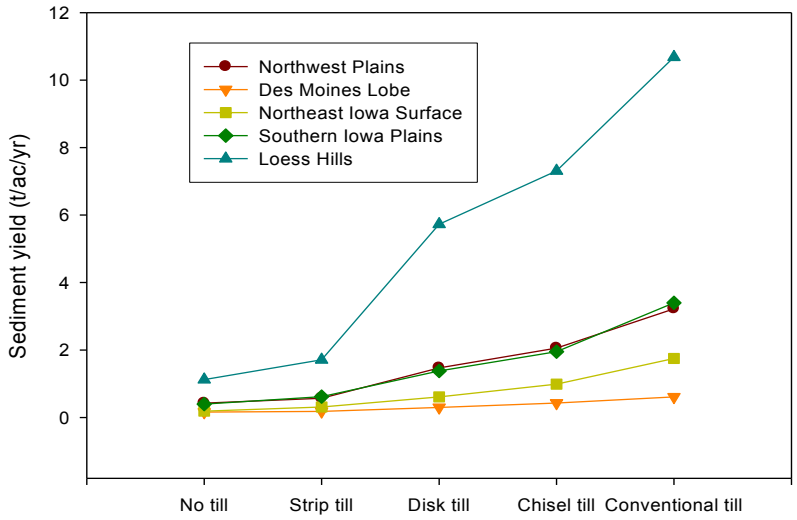
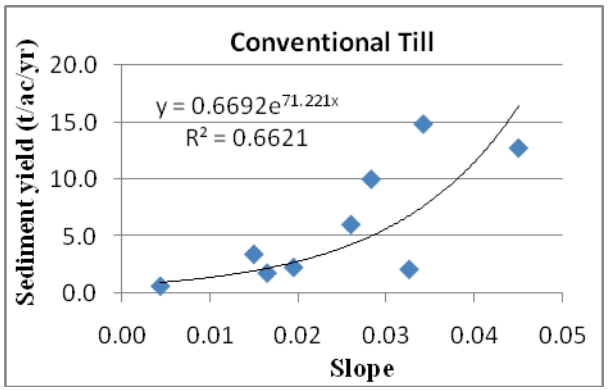


Figure 1. The impact of tillage systems on sediment yield

- Conservation tillage systems could significantly reduce soil erosion from agricultural lands (Figure 1);
- The impacts of in-field management practices are site-specific; flat areas are less sensitive to the change of management practices (Figure 2);



ECONOMICS COMPONENT (Duffy)

April 1-June 30:

During this quarter we worked to prepare erosion, soil quality and fuel use analysis of the ILF cooperators using the National Resource Conservation Service RUSLE 2 program. RUSLE 2 uses information about field work, soil type and field topography to predict annual erosion per acre, soil organic matter levels and fuel use on farms. On April 27, 2007, ILF economics team members Dr. Michael Duffy and research assistant David Correll traveled to the NRCS office in Des Moines for a RUSLE 2 tutorial. Over the following two months, we worked with State Agronomist Barbara Stewart to integrate existing ILF data into the RUSLE 2 system.

So far, four cooperators (six experiments) have been analyzed with RUSLE 2. The economics team encountered some difficulty in gathering complete field operation and yield data for each cooperator's entire crop rotation, which is essential to predicting erosion and soil quality. Next year we expect to analyze many more cooperators with RUSLE 2 as we obtain more complete information about their cropping systems.

July 1-September 30:

Dr. Duffy and graduate student David Corell had several meetings with soil scientists, NRCS staff, and ILF staff members regarding refining our erosion and energy-use analysis. We used the RUSLE2 program to complete analysis for four cooperators representing six projects. There were some difficulties in pursuing this method. We are working with a variety of specialists to try and reform the method used. We also prepared summary project analysis for the ILF Spring newsletter and the stakeholder event in August. Most of the available 2006 crop year data had been processed, so a majority of our time in this area was spent determining how to improve data collection activities for 2007 crop year. We have started work on estimating the value of a ton of soil and will continue this work into next quarter. We are in the early stages of developing on on-line bulletin board for just ILF staff to provide a running summary of what data is available and what data is needed. The plans for next quarter include finding a replacement for David and trying to enhance the energy and erosion analysis.

October 1-December 31:

Dr. Duffy's ILF activities during the quarter centered on estimating and assessing the value of a ton of soil (placing an economic cost on soil lost to surface erosion). Early in the reporting period graduate student David Correll left the ILF project, embarking on an alternate graduate thesis project that more closely matched his career goals. Late in the reporting period new graduate student, Andrew Herringshaw, accepted an assistantship with Dr. Duffy and will assume the economic analysis duties previously held by Correll.

EVALUATION/SOCIOLOGY COMPONENT (Lasley & Comito)

April 1-June 30:

We introduced a new evaluation system for all ILF activities beginning in April. Comito was responsible for monitoring and evaluating the effectiveness of the new system at a variety of events (see attached forms). Insight from the new evaluation forms will be included in the September quarterly report. Evaluations are ongoing and the ILF staff is constantly monitoring the effectiveness of activities and modifying their efforts when necessary.

Comito and Lasley have been working on developing the theme of "culture of conservation" that can be used as the overarching idea for the ILF project and the stakeholder event. With the help of ISU Extension communications team, they are updating an Extension publication that has

to do with social action and motivation of farmers to change. In addition, Comito worked with the communications team and helped with the transition as two new staff members joined the team this quarter. The ILF staff now meets on a bi-monthly basis to review activities, to make adjustments when necessary and to coordinate upcoming events. Comito also helped with the planning of rainfall simulator outreach, field day activities and other activities involving communication and outreach. The months of May and June showed a dramatic increase in the number of ILF activities when compared to the same period in past years. More formal evaluations of the June field day on the Zwiefel farm will be included in the next quarter report.

In June, Comito started on-farm interviews of the 28 cooperators. This is being done for evaluation purposes as well as to develop website profiles for the cooperators to raise their visibility in the project. Photographic material is also being collected from all the cooperators that can be used in promotion and outreach material for field days and other events. Cooperators are being asked a series of questions about their approach to conservation with the hope of understanding how we can motivate others to adopt better conservation practices. A report on the cooperator interviews will be included in the next quarter report.

The following is a general breakdown of Comito's activities for April, May and June:

- Assisted in hiring of new communications expert
- Work on development of more educational material for rainfall simulator with communications team
- Helped with training of new staff
- Work on development of educational/outreach material relating to "culture of conservation"
- Served as one of the educators for rainfall simulator events in Ankeny & Effigy Mounds
- Monitored evaluation of ILF activities
- Continue helping with educational material for rainfall simulator with Carol Brown
- Continue helping train new staff
- Continued work on development of material relating to "culture of conservation"
- Continued work with communications team to increase the outreach & education venues for summer
- Helped with coordination of stakeholder event meeting regularly with committee
- Served as presenter for rainfall simulator events in Taylor County CDI event and at Ames Farmer's Market
- Meet with stakeholder events coordination committee to continue helping with the planning
- On-farm interview
- Conducted archival research for Paul Lasley on history of farming and conservation in Iowa for future ILF presentation
- Worked with Jean McGuire and Jon Anderson on a video presentation that deals with the culture of conservation for ILF
- Continued work with communications team to increase the outreach & education venues for summer

July 1-September 30:

Comito's role continued to be one of leadership as well as day-to-day implementation of tasks associated with several aspects of the project's evaluation. We introduced a new evaluation system for all ILF activities beginning in April. Comito was responsible for monitoring and evaluating the effectiveness of the new system at a variety of events (see attached forms). Insight from the new evaluation forms (April – October) is

included as a separate attachment. There were 43 events during this time period and evaluations continue to be on going and the ILF staff is constantly monitoring the effectiveness of activities and modifying their efforts when necessary.

Comito and Lasley have been working on developing the theme of "culture of conservation" that was used as the overarching idea for the ILF project and the stakeholder event. In collaboration with Drs J. Arbuckle and Lois W. Morton of ISU Sociology, they submitted a grant proposal to IDNR to evaluate the State Revolving Fund's Local Water Protection Program. This is an Iowa Learning Farm project and Comito will serve as one of the PIs.

Dr. Lois W. Morton is joining the sociology team to develop better means of outreach in issues of citizen action and water quality in Iowa. Morton heads several projects throughout the state and we will be using her material to help other begin similar watershed and water quality action groups.

This summer, Comito started on-farm interviews of the 28 cooperators. During this period, Comito conducted 10 on-farm cooperator interviews. This is being done for evaluation purposes as well as to develop website profiles for the cooperators to raise their visibility in the project. Photographic material is also being collected from all the cooperators that can be used in promotion and outreach material for field days and other events. Cooperators are being asked a series of questions about their approach to conservation with the hopes of understanding how we can motivate others to adopt better conservation practices. Those cooperators who attended the ILF cooperator meeting in March or one of the regional meetings in February were more engaged in the project.

Throughout the summer, Comito met with communications team to plan the August stakeholder event that raised the visibility of the Iowa Learning Farms project and helped build our statewide support. Comito, with the help of McGuire and her team, is developing a new video that discussion the culture of conservation in Iowa. This video will be premiered at the Iowa Soil and Water Conservation District Commissioners Conference in November as we launch the campaign to add new spokespeople to ILF.

The following is a general breakdown of Comito's activities for July, August and September:

- Worked on development of educational/outreach material relating to "culture of conservation"
- Served as one of the educators for some of the rainfall simulator events
- Monitored evaluation of ILF activities and attended all scheduled ILF field days
- Photographed several of the cooperators for outreach material and website
- Continued work with communications team to increase the outreach & education venues for summer and fall
- Helped with coordination of stakeholder event meeting regularly with committee
- Conducted 10 on-farm interviews
- Conducted archival research for Paul Lasley on history of faming and conservation in Iowa for future ILF presentation
- Continued work with Jean McGuire and Jon Anderson on a video presentation that deals with the culture of conservation for ILF

October 1-December 31:

Comito and Lasley introduced the ILF Conservationist program at the Soil and Water Conservation Districts Annual Conference in November. To prepare for this, Comito, Jean McGuire and Jon Anderson produced a 7-minute video on creating a culture of conservation. This video was premiered during Lasley's presentation to the Commissioners. Much work and preparation went into launching this pilot program. New materials were developed and several meetings were held to work out the nature of the program. During this time, Comito also met with sociologist Lois W. Morton, to help develop more ideas of water quality work that will be introduced in 2008.

In December, Comito was made ILF Assistant Program Manager reporting directly to DeWitt. She will continue in her capacity of ILF Evaluator as well as the new task of helping manage the program and working with ILF partners.

The following is a general breakdown of Comito's activities for October, November, and December:

- Met with Matt Helmers and Lois W. Morton to work out water quality outreach in 2008
- Wrote the ILF Conservationist grant to IDALS and received funding.
- Worked with C. Brown to send letters to those who attended stakeholder meeting in August to see how they would like to assist ILF in future
- Worked on development of educational/outreach material relating to "culture of conservation"
- Collected photos and material for video "Building Culture of Conservation"
- Prepared evaluation report on ILF activities for 2007 to be presented at ILF steering committee
- Helped coordinate the ILF steering committee meeting
- Monitored evaluation of ILF activities
- Continued work on development of material relating to "culture of conservation"
- Continued work with communications team to increase the outreach & education venues for winter, including 5 winter water quality meetings
- Developed a *Des Moines Register* editorial with Rick Juchems
- Completed work on "Culture of Conservation" video & completed Lasley's presentation for SWCD Annual Conference
- Meet with Dr. Morton to continue conversation about water quality issues and sociology outreach
- Reviewed ILF Conservationists applications with Illvess, Gillespie and ILF Communications team
- Helped DeWitt and Lasley with two presentations –one for conservation partners and the other to Adair County landlords
- Developed questionnaire for NRCS regional areas discussion meetings
- Helped Brown and communications team with several conference displays
- Worked on January ILF Cooperators meeting (which included partners, farmers, conservationists, ISU faculty and staff)
- Transcribed ILF cooperator interviews for use on ILF website
- Began new role of ILF Assistant Program Manager
- Participated in coordination meetings for January 24 Capitol Rotunda event

OUTREACH COMPONENT (Lundvall & Brown)
April 1-June 30:

Lundvall began his duties as field coordinator on April 1 and Brown began on May 1. Since they began, communications team members have met officially monthly, and unofficially bi-monthly, meeting with key team members as events draw near. Lundvall and Brown work in tandem--networking with ISU County Extension Education Directors (CEEDs), media representatives, and team members to facilitate event planning and educational outreach.

Since April 1 the following events have been scheduled and are being planned:

- Field Day, June 29, Zwiefel – Kossuth County
- Field Day, August 2, Muscatine County (cooperators Mike Deahr and Doug Nolte are involved)
- Field Day, August 8, Stout – Washington County
- Field Day, August 21, Caviness – Adair County
- Field Day, August 23, Campbell – Ringgold County
- Field Day, August 25, PFI Field Day, O'Brien County
- Stakeholder Event: August 30, Smeltzer Trust Demonstration farm

Rainfall simulator has appeared--or has been scheduled to appear--at:

- 15 county fairs
- Ames and Des Moines farmers markets
- Iowa Children's Water Festival
- Upper Mississippi River Festival
- Sac/Buena Vista County 4-H Crop Scouting Orientation
- Storm Lake Watershed Group
- Iowa Soil Commissioner's Tour
- Conservation and Natural Resource Issues Conference

News releases: Sent for each public event to targeted area media through direct communication or through ISU CEEDs. Phone and email contact were also done as follow up to field day event to area media. WHO-TV 5 p.m. newscast on June 27 featured Helmers interview and footage of the project's rainfall simulator at the Farm Bureau Conservation Conference. Immediately after the rainfall simulator story was released in May, WHO radio aired a story which included an interview with Helmers.

Print material created:

- Spring newsletter (mailed, emailed and posted on website)
- 8 new signs for the rainfall simulator
- comment cards for field days and other events reprinted
- handout to accompany the simulator (with request form printed on reverse side)

- mailing list signup sheet
- Hold the Date postcard for the Stakeholder event
- news release template which includes logo and contact information
- website updates and links to the ILF website within the ISU Extension web pages
- Newsletter mailing list updates are ongoing

Stakeholder Event: Planning for the August 30 stakeholder event is ongoing. Lundvall has been working with local Webster County contacts to complete event logistics (meal, tent, key speakers, etc). "Hold the Date" postcards were mailed on June 18. Invitation letter will be mailed in late July with follow-up phone calls by ILF team members.

July 1-September 30:

Brown and Lundvall continue their ongoing communications team official monthly meetings and impromptu meetings with team members. They have coordinated efforts to promote the summer ILF field days, rainfall simulator appearances and the stakeholder event.

Events: Since July 1 the following ILF events have been held--

- Field Day, August 2, Muscatine County (cooperators Mike Deahr and Doug Nolte)
- Field Day, August 8, Washington County (cooperator Rob Stout)
- Field Day, August 21, Adair County (cooperator Randy Caviness)
- Field Day, August 23, Ringgold County (cooperator Doug Campbell)
- Field Day, August 27, Clay County (cooperator Jerry Crew)
- Stakeholder Event: August 30, Smeltzer Trust Demonstration farm

The rainfall simulator has appeared at 42 different events between May and October this year. The attached sheet lists the events by county.

News releases: Written and distributed for each ILF event (including rainfall simulator appearances) to targeted area media through direct communication or through ISU County Extension Education Directors (CEEDs). Phone and email reminders were made for field days to specific media.

Website: Carol Brown has begun monitoring the Iowa Learning Farm website. Iowa State Extension provides data for all of their sites, recording "hits" and "visits" along with many more statistics.

Definitions from the Extension IT department:

- Hit: Each file that is requested from the web server. This can be misleading because if a user requests a page that has 5 graphics on it, the server will record 6 hits, one for the page itself, and one for each graphic file.
- Visits: Number of times someone enters your site. If they leave, then come back within 30 minutes, it still is one visit. If however, they come back longer than 30 minutes, then it's counted as a new visit.
- Visitors: Unique computer addresses that come to your site.

The ILF website was launched April 2005 with 1,781 hits, 417 visits and 166 unique visitors. Data shows that since the launching of the website, visits have steadily climbed with the highest number of visits recorded in July.

Other Extension web pages information for comparison:

- Leopold Center: 186,942 hits 18,355 visits 13,234 visitors (July 2007)
- Beginning Farmer Center: 19,185 hits 8,925 visits 2,421 visitors (July 2007)
- ILF 13,815 hits 4,482 visits 1,334 visitors (July 2007)

We will use the July 2007 numbers as our baseline to begin monitoring usage. But this not an exact science and is only a means to monitor trends in website usage. One of the goals within the communications component for the 2008 work plan is to redesign the appearance and navigation of the entire site. As we direct people to the website and as navigation/content are upgraded we will see numbers increase.

Print material created:

- Flyers and postcards advertising individual field days (5). These were mailed to CEEDs, field agronomists and/or host, for local distribution.
- Letterhead and envelopes
- Vision '09 document
- Cooperator map and contact information
- Stakeholder Event invitation letter, agenda card, map to Smelter Farm
- Stakeholder Event packet material—DVDs, Extension brochures, Vision document, cooperator list, rainfall simulator info sheet, packet labels, nametags
- Cooperator display banner
- Posters—series of four conservation posters for giveaway at event and other meetings
- Fall Newsletter
- Newsletter mailing list updates are ongoing
- Website updating and development is ongoing

Stakeholder Event: The ILF Stakeholder Event—Building a Culture of Conservation ~ Farmer to Farmer: Iowan to Iowan—was held August 30 at the Smeltzer Demonstration Farm near Otho (Webster County). Approximately 80 people were in attendance. Iowa Secretary of Agriculture Bill Northey was special guest speaker. Attendees heard overviews about the ILF project by J. DeWitt, comments from Secretary Northey, and information about the Smeltzer Farm. After a complimentary lunch, served by the Webster County Pork Producers, attendees boarded wagons and toured the farm, hearing presentations regarding water quality, conservation practices and crop information.

This event was successful, bringing a greater knowledge of the ILF project to our partner organizations, updating them on the progress we have made so far, and laying out the future of the project.

Attendees were mailed a questionnaire several weeks after the event, asking organizations and agencies for their cooperation with the project. Several other targeted letters are being sent to non-attendees, providing an overview of the project and asking them for their participation as well.

October 1-December 31:

John Lundvall and Carol Brown continue the outreach efforts of the ILF project. With regular communication between team members, cooperators, agency representatives and the general public, awareness of the project continues to rise.

Events: The Iowa Learning Farm was represented at several events this quarter, either by presenting at conferences or workshops, or staffing display booths. Events include:

- Soil and Water Conservation District Commissioners annual conference, Ames, Nov. 28-29: Lasley was a keynote speaker and the new video debuted. DeWitt, along with cooperators Joel and Linda Zwiefel, presented a session about the ILF. Brown, Comito, and Lundvall staffed the ILF display booth.
- Integrated Crop Management (ICM) Conference, Ames, Nov. 29: Al-Kaisi, Helmers, Duffy presented "Conservation systems and soil and water quality symposium," a two-hour session at the conference, moderated by Lundvall.
- Iowa Farm Bureau annual members meeting, Des Moines, Dec. 7: Brown, Comito and DeWitt staffed the ILF booth.

News releases: In conversations with editor Rod Swoboda of *Wallaces Farmer*, Brown will submit an article to run in each issue of 2008, beginning Dec. 2007, with an article introducing the ILF project to readers (links to online issue below).
http://magissues.farmprogress.com/WAL/WF12Dec07/wal049.pdf
http://magissues.farmprogress.com/WAL/WF12Dec07/wal050.pdf

Website: An agreement was reached with web designer Liisa Jarvinen (who works with several ISU-affiliated websites) to redesign the entire ILF website. She will begin work in Jan. 2008 with Brown and communications team to re-navigate and organize the site. Goal for launching is late Feb/early March 2008. Profiles were written of the cooperators who have been interviewed by Comito.

Print material created:

- A follow-up survey to attendees of the Stakeholder event was printed and mailed in October; a similar survey was mailed to non-attendees the following week. The survey included questions of how organizations/agencies could collaborate with the ILF. Response was positive; most are willing to collaborate in some way with the project.
- An overview and nomination form for the new ILF Conservationists was created, outlining the type of person we are seeking and their responsibilities with the project, which was launched at the SWCD conference Nov. 28.
- ILF posters reprinted (series of 4)
- Invitation letter and supporting information for Jan. 15 cooperater meeting printed and mailed mid-December
- Articles for *Wallaces Farmer* (Dec and Jan issues) were written and submitted in Nov. and Dec. (deadline is one month prior to publication)